Rhododendrons. Although the flowers of a few of the plants will have faded and those of others will not have opened, the largest number of evergreen Rhododendrons in the Arboretum will be in flower when this Bulletin reaches its Massachusetts readers. Flower-buds are abundant and the brilliant display made by these plants promises to be an exceptionally good one. The Rhododendron collection is at the base of Hemlock Hill and adjoins the South Street gate.

Comparatively little success in the cultivation of these plants has been obtained in the eastern United States in spite of all the time, thought and money which have been expended on them in the last seventy-five years. This climate is hostile to all broad-leaved evergreens, and of the hundreds of species of evergreen Rhododendrons now known only the species of eastern North America, five exotic species and a few hybrids can be grown in the open ground in Massachusetts; and among them are none of the really beautiful trees and shrubs which are the glory of a few gardens in more favored regions. A few more hybrids may be added to the Arboretum collection, but it is not probable that there are now anywhere species to discover which will prove hardy in this climate. In the neighborhood of Portland, Oregon, or near the shores of Puget Sound and not in the east collections of evergreen Rhododendrons may be established which may well rival or surpass those in the gardens on the shores of the Italian Lakes or in Cornwall, although in one Cornwall garden some four hundred species are growing and nearly seventy species have been in flower on the same day.
Plants of the native *Rhododendron maximum* collected in the middle and southern states have been planted in recent years in considerable numbers in this part of the country, but the Rhododendrons chiefly used in the gardens of eastern North America are hybrids of *R. catawbiense* of the high slopes and summits of the southern Appalachian Mountains. Names have been given to a large number of plants made originally by crossing this species with the Himalayan *R. arboreum* and other Indian species, with the Caucasian *R. ponticum* and with *R. maximum*, and by raising seedlings from these hybrids. Most of these hybrids and their offspring have been raised in England; several good varieties have originated in Germany and Belgium, and a few have been produced in the United States many years ago chiefly in the Parsons Nursery in Flushing, Long Island. The best of these hybrids for this country have been made in England but only a comparatively small number of them are hardy, the hardiest being those in which the catawbiense and maximum blood predominate. *Rhododendron ponticum*, a tender species, has been used almost exclusively for the stock on which these hybrids have been grafted, and the tenderness of the stock has evidently affected the constitution of the graft; and it is this stock which may cause the death without other apparent causes of plants which have flourished in this country for thirty or forty years. *R. ponticum* is favored by nurserymen because the plants are quickly and cheaply raised and easily worked, but for really hardy and reliable Rhododendron hybrids for this country *R. catawbiense*, although more difficult to work, should be used for stock. Even better than any grafted plants are those obtained from layers, a slower and more expensive process, formerly much practiced in the Kanphill Nurseries by Anthony Waterer who raised the best Catawbiense Hybrids which have been planted in New England. A few of the hardiest and handsomest of these plants which can be grown in this climate are Atrosanguineum, Charles Dickens, Mrs. C. S. Sargent, Henrietta Sargent, Catawbiense album, Album elegans, Roseum elegans, Hannibal, H. W. Sargent, Discolor, Melton, Album grandiflorum, Purpureum grandiflorum, Purpureum elegans and Lady Armstrong.

The hardiest Rhododendrons in this climate are *R. maximum* and *R. catawbiense*; the former, which in the valleys of the southern mountains is sometimes a bushy tree up to forty feet in height, but at the north is much smaller, is distributed in isolated stations from Nova Scotia through New England and eastern New York to Pennsylvania; from Pennsylvania southward along the Appalachian Mountains it is very abundant at low altitudes, often covering the slopes of narrow valleys with almost impenetrable thickets. The flowers are white or pale rose color, and are produced in rather compact clusters, which as the flowers do not open until late in June or early in July are a good deal hidden by the branches of the year which rise well above them. The long comparatively narrow leaves up to a foot in length make this Rhododendron valuable in a climate in which few broad-leaved evergreen plants can be successfully grown. *R. catawbiense* is a round-topped, rather compact shrub with broad, dark green and lustrous leaves. It is very hardy but grows slower than many of its hybrids, and is handsomest before the flowers open or after they have
faded, for they are of a disagreeable rose-purple color which has spoiled the flowers of many of its hybrids or of their varieties like the hardy and popular Everestianum. The flowers of *R. carolinianum*, one of the first species to flower here, are fast fading. This little shrub of the southern Appalachian Mountains, although distinguished only a few years ago, is becoming popular in northern gardens where it grows well under the shade of trees and in full exposure to the sun. It is a plant rarely three feet high, with small, dark green and compact clusters of pink flowers. There is a form with white flowers. The other Appalachian species, *R. minus*, blooms after the catawbiense hybrids. This shrub has been in cultivation for more than one hundred years, usually under the name of *R. punctatum*. Although a larger plant than *R. carolinianum*, with slightly larger pink flowers, it is not as good a garden plant for the flowers, like those of *R. maximum*, are hidden by the shoots of the year which rise above them. *R. coriaceum*, which came to the Arboretum thirty years ago from the Kanphill Nursery in England, resembles *R. caucasicum* of the mountain slopes of the Caucasus. The shape of the leaves, the covering of brown felt on their lower surface, and the white flowers on long pedicels in few-flowered clusters do not greatly differ from those of the wild plant in shape and size. In the Arboretum *R. coriaceum* is now between three and four feet high and broad with erect stems; it flowers abundantly every year and the leaves and flower-buds are not injured by the cold of eastern Massachusetts. It flowers, however, nearly two weeks later than the plants which are usually considered hybrids of *R. caucasicum*, although nothing very definite appears to be known of their origin. The best of these plants which have been grown in the Arboretum is called Boule de Neige and is believed to have been raised in France. It is a low, broad round-topped bush which is perfectly hardy and every spring is covered with flowers which are as white as it is possible for flowers to be. This is the earliest evergreen Rhododendron to flower in the Arboretum with the exception of the plant called Christmas Cheer, which is said to be a hybrid of *R. caucasicum* and the Indian *R. arboreum*, and every year loses its flowers by spring frosts. Boule de Neige is considered the handsomest and most satisfactory of the early-flowering Rhododendrons which can be grown in this climate. Almost as good is the plant called Mont Blanc with flowers which are pale rose color when the buds first appear but soon become pure white. The handsome red-flowered Jacksoni too often loses the flower-buds in severe winters. The Caucasian *R. Smirnowii* is as usual in good condition this spring and none of the Rhododendrons which can be grown here have more beautiful pink flowers. The thick coat of pale yellow felt which covers the lower surface of the leaves protects them from the attacks of the lace-wing fly which has in recent years done so much damage in this country and Europe to the leaves of Rhododendrons and Kalmias. A few hybrids of *R. Smirnowii* crossed with hybrid Catawbiense varieties have been raised and among them are plants of considerable promise, although none of them retain the covering of felt on the lower surface of the leaves of their Caucasian parent. Still rare in American gardens, *R. Smirnowii* deserves the attention of planters of Rhododendrons. It will probably prove valuable in breeding a race of Rhododendrons suited to the climate of the northeastern United States.
Crataegus aprica is a representative of the large and still imperfectly known Flavae Group, distinguished by its few-flowered corymbs, conspicuously glandular like the cuneate leaves; usually twenty stamens, rose-colored or yellow anthers, and usually zigzag often pendulous branches. The species are usually trees but occasionally shrubs, fifteen being admitted into Sargent's New Manual of the Trees of North America. The plants of this Group are confined almost exclusively to the southeastern states from southwestern Virginia to central Florida and southern Alabama. They occur in eastern Mississippi, and one species grows near the banks of the Mississippi River near Bayou Sarah, Louisiana, the most western station known for any species of the Group. The species are most abundant in the lower parts of the states of South Carolina and Georgia and in northern Florida, but a few species occur on the Appalachian Mountains up to altitudes of about three thousand five hundred feet. Most of the high country species are established in the Peter's Hill Group and six or seven of them have flowered sparingly during the past week. The best known in the Arboretum, C. aprica, was first raised here in 1876 from seed presented by Asa Gray as C. coccinea, the name usually applied in those days to most American Hawthorns. This is the most northern species of the Group and appears to ascend to higher altitudes than any of the others. The branches are less zigzag than in most of the species, and the flowers have only ten stamens with yellow anthers. The fruit is subglobose, often slightly hairy at the ends and dark orange-red. C. aprica is a tree occasionally twenty feet tall with a trunk from six to eight inches in diameter, covered with deeply furrowed and scaly bark, and spreading branches forming an open head. C. aprica is not one of the handsomest or a typical species of the Group but its hardiness makes it a good representative of the Flavae in northern collections in which most of the other species grow badly even if they grow at all. The old plant of C. aprica on the bank near the Forest Hills Gate is not flowering this year but there are flowers on the younger plants in the Peter's Hill Group.

Lonicera Morrowii has been growing in the Arboretum since 1884 and is now only mentioned here in order to call attention to the remarkable groups of the plants of this species near the crossing in Franklin Park, Boston, of the park drive and the traffic road which divides the park from north to south. In these groups the plants now covered with flowers are from twenty-five to thirty feet in diameter and eight or ten feet high and are round-topped and perfect in shape with lower branches spread out over the ground. Lovers of handsome hardy shrubs will be well repaid by a visit to these remarkable shrubs. Lonicera Morrowii is offered for sale by several American nurseries, but these nursery plants raised from seeds usually prove to be hybrids of L. Morrowii and L. tartarica with upright branches, greener leaves and smaller flowers, and as compared with the Siberian and Japanese plant now to be seen in Franklin Park of little value. Loniceras, or many of them, hybridize freely and only plants raised from cuttings can be depended on.